



# BAZ Series

DOUBLE INLET CENTRIFUGAL FAN  
with Airfoil Wheels

頂尖風範 · 獨具一格



封面風機顏色僅供參考



**FLOWTECH**  
陽鼎實業股份有限公司



# 世·界·級·的·認·證

GLOBALLY RECOGNIZED  
CERTIFICATIONS AND STANDARDS

## 通風設備性能與耐溫測試實驗室

## Ventilation Performance and Smoke Management Laboratory

舉凡通風設備產品如風機、風門所需之性能及品質要求，皆可由本實驗室提供一系列完整的測試服務。並在財團法人全國認證TAF基金會的品質及技術要求監督下，獨立並公正執行每項測試。因此，國內公共工程及消防安全之相關通風設備產品，不必再千里迢迢將產品送到國外測試，也不需業主及顧問公司人員舟車勞頓至國外見證，節省更多的時間費用。

除此之外，本實驗室為求能邁入國際化，分別於西元2003年12月29日、2004年11月5日及2004年12月22日取得AMCA 210、UL555/555S和AMCA 300之實驗認證。AMCA及UL實驗室在風機及風門的產品測試要求，一直是大部分國家採用的規範，AMCA及UL在透過定期的能力對比之下，監督其認證過的實驗室測試能力即精確度。因此，本實驗室為國內第一家風機製造商通過AMCA及UL認證的實驗室，對於產業將會造成良性的競爭與提升。



AMCA 300



亞洲唯一UL認證實驗室



AMCA 210



實驗室TAF證書



## 常溫風機性能測試設備 Fan performance Testing Facility

### 測試標準(Standards)

- AMCA 210
- BS 848-1
- ISO 5801
- DIN 24163-2

## 風門、百葉壓損測試設備 Louver Pressure Drop Testing Facility

### 測試標準(Standards)

- AMCA 500

## 隧道通風機振動/推力測試設備 Jet Fan Thrust Testing Facility

### 測試標準(Standards)

- ISO 13350
- BS 848-10

## 排煙閘門洩漏測試設備 Smoke Damper Leakage Testing Facility

### 測試標準(Standards)

- AMCA 500
- ISO 10294
- UL 555S
- GB 15930

## 消音箱/消音百葉測試設備 Silencer / Acoustical Louver Testing Facility

### 測試標準(Standards)

- ASTM-E477
- ISO 7235

## 防火風門測試設備 Fire Damper Testing Facility

### 測試標準(Standards)

- UL 555

### 測試標準

- AMCA 210
- ASHRAE 149
- BS 848-10
- ISO 7235
- AMCA 300
- DIN 24163-2
- GA 211
- ISO 10294
- AMCA 500
- BS 7346-2
- GB 15930
- ISO 13350
- AS 4429
- BS 848-1
- EN 12101-3
- UL 555
- ASTM-E477
- BS 848-2
- ISO 5801
- UL 555S



全響室迴風道出口  
Exhaust Duct exit of Reverberant



流量噴嘴  
Multiple Nozzles for Flow Measurement



全響室  
Reverberant Room  
360°旋轉噪音器  
360°Routing Microphone in Reverberant



整流裝置  
Flow Straightener



全響室迴風道裝置  
Silencer in Exhaust Duct





# BAZ<sup>Flowtech®</sup> Series

## DOUBLE INLET CENTRIFUGAL FAN

雙吸翼截式離心風機

with Airfoil Wheels

Low and Medium pressure high efficiency centrifugal fan  
中低壓力與高效率離心風機

Flowtech Co., Ltd. Certifies that Model BAZ shown on pages 22-53 is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with requirements of the AMCA Certified Ratings

陽鼎實業股份有限公司保證BAZ系列目錄中，第22-53頁均通過並取得AMCA的認證。目錄上所顯示的風機性能參數是依據AMCA211與AMCA 311認證測試規範所要求的實驗條件及測試程序下進行測試所獲得的。



POWER VENTILATOR  
45GD

BAZ Series are listed for electrical  
(UL/cUL 705) File no. E323432

BAZ全系列通過UL/cUL 705產品認證  
檔案號碼：E323432



型錄內風機顏色僅供參考



**BAZ Series**

## BAZ Series Double Inlet Centrifugal Fans – Airfoil wheels

### BAZ 系列 雙吸翼截式離心風機

The BAZ series is DWDI centrifugal fans with high efficiency non-overloading airfoil impellers, and with the following characteristic

- (1) The impellers use aerofoil blades have minimum Lose on Hydrodynamics, compare with the tradition impellers have more higher efficiency and lower noise.
- (2) Because aerofoil blades structure strong more than tradition blades, so it can use high revolutions and static pressure.

The fans are auditable for supply or extract applications in commercial, process and industrial HVAC systems. Sizes of this series are in accordance with AMCA standard 99-0098-76 R20.

BAZ系列為雙吸離心式風機（DWDI），其葉輪為高效率無超載的翼截式葉輪，具有以下特色：

- (1) 葉輪採用流體力學上損失最少的翼截式葉片，與傳統平板式的葉片比較起來具有高效率、低噪音的特性。
- (2) 因翼截式葉片比傳統平板式的葉片構造更堅固，可承受較高的轉數，且靜壓的使用範圍也較廣泛。此風機適用於商業及工業通風空調系統中。

該系列的規格是根據AMCA 99-0098-76 R20標準設計。

### Type / Operating Limit

#### 結構 / 操作極限

|        | Model<br>355-450 | Model<br>500-630 | Model<br>710-2000 |
|--------|------------------|------------------|-------------------|
| Type L | I                |                  |                   |
| Type M |                  | I                |                   |
| Type H | II               | II               | I                 |
| Type V | III              | III              | II                |
| Type X |                  |                  | III               |

Each fan type has its maximum operation speed and power due to its mechanical design.

The operating limit of BAZ series – fan type is design to meet the requirement of class I, II and III limit as defined in AMCA standard 99-2408-69.

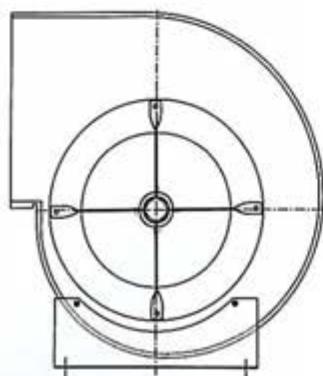
The BAZ series is available in type L, M, H, V, X as shown in Fig.1 :

每種風機類型由於機械設計的不同都有其最大的操作速度及功率。

BAZ系列各種風機類型要求的I、II、III等級是符合AMCA標準99-2408-69運轉的限制和風機類型要求所設計。

BAZ風機系列的型式包含L M H V X。詳細內容請參照圖表.1

### Type L



This type is supplied with mounting feet and can be mounted in three different orientations. Inlet flange 'L' and outlet flange are supplied as standard.

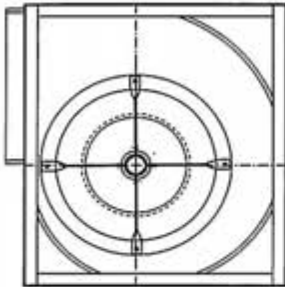
Without outlet flange, with removable feet

Size : 355 to 450 Volume : 0.31 to 6.23 m<sup>3</sup>/s Total Pressure. : up to 1675Pa

這類型的風機由半月型腳架支撐並可變換三種不同的安裝方位。可提供移動式的半月型腳架但不提供出口法蘭。

型號：355到450 風量：0.31到6.23 m<sup>3</sup>/s 全壓：可達1675 Pa

## Type M



This type has a frame fitted on both sides of the fan which gives better strength and rigidity and allows mounting in four different orientations.

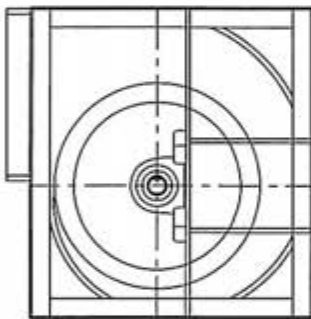
Without outlet flange, with welded rectangular frame.

Size : 355 to 630 Volume : 0.31 to 11.96 m<sup>3</sup>/s Total Pressure. : up to 1675Pa

這類型的風機在兩側皆有適合的框架，以加強其強度與剛度，並可變換四種不同的安裝方位。可提供焊接式的方形框架但不提供出口法蘭。

型號：355到630 風量：0.31到11.96 m<sup>3</sup>/s 全壓：可達1675 Pa

## Type H



This type has a welded frame giving increased stiffness and rigidity required for higher operating performance.

Without outlet flange, with welded rectangular frame.

Size : 355 to 2000 Volume : 0.64 to 167.5 m<sup>3</sup>/s Total Pressure. : up to 2800Pa

這類型的風機皆以焊接方式加強框架的結構，以提升強度與剛度，適用於要求全壓較高的場合。可提供焊接式的方形框架但不提供出口法蘭。

型號：355到2000 風量：0.63到167.5 m<sup>3</sup>/s 全壓：可達2800 Pa

## Type V



This type is similar to type H but utilizes enhanced bearings to support higher load necessary for the increased performance.

Without outlet flange, with welded rectangular frame.

Size : 355 to 2000 Volume : 0.92 to 227 m<sup>3</sup>/s Total Pressure. : up to 5200Pa

這類型的風機類似於type H，但利用增強軸承方面的結構強度，能適用於需要在高性能運轉的場合。可提供焊接式的方形框架但不提供出口法蘭。

型號：355到2000 風量：0.92到227 m<sup>3</sup>/s 全壓：可達5200 Pa

Fig.1 / 圖表.1

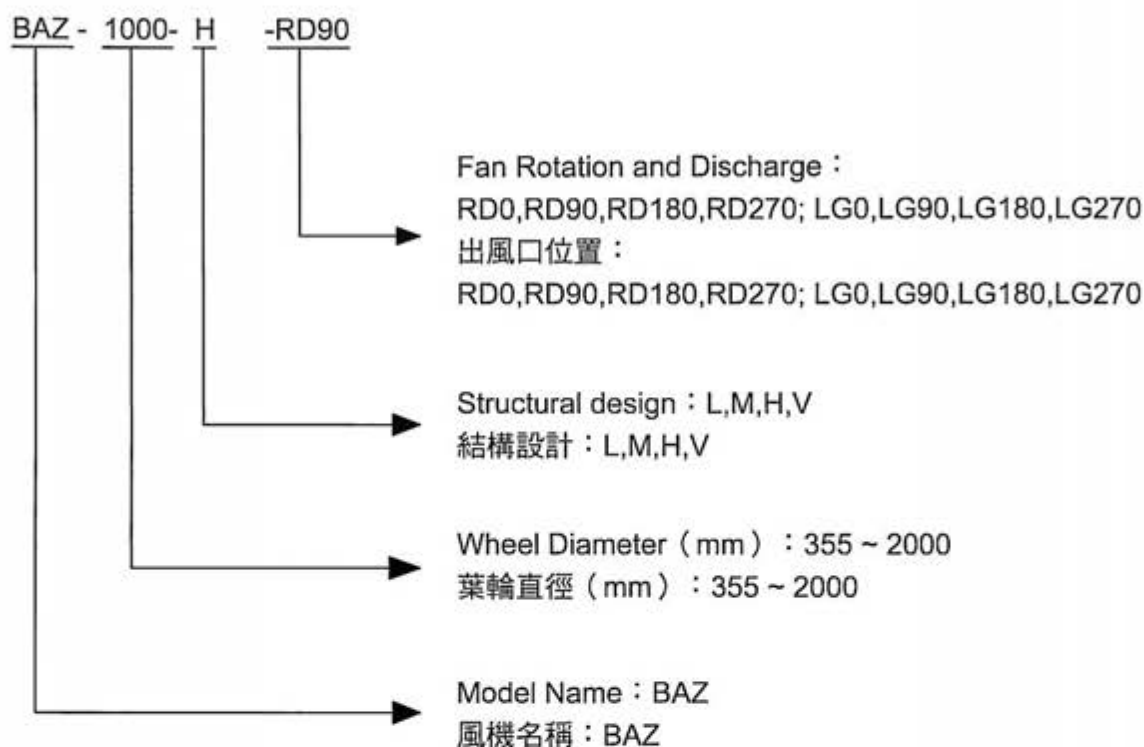
The type "X" is non-standard , for more information , please consult Flowtech co., Ltd  
Type X是非標準產品，若想了解更多詳細資料，請與陽鼎實業股份有限公司聯繫



**BAZ Series**

## Designation ,Formula signs

### 風機命名方式



## BAZ Twin Fan

### BAZ 雙組風機

BAZ series are also available in twin fan version, with two double inlet fans mounted on the same shaft.

To Select for twin fans, use the curve of single fan with the following factors :

BAZ系列也可以採用雙組風機的形式，也就是將兩台風機的入風口安裝在同一個軸上。

在選用雙組風機的時候，將採用單一風機的曲線，並採用下列係數：

Airflow Rate風量----- x 2  
 Absorbed Power輸出功率----- x 2.15  
 Speed轉速----- x 1.05  
 Noise 噪音----- + 3dB

This series is available in type G<sub>2</sub> L (355-400), G<sub>2</sub> M (355-500), G<sub>2</sub> H (355-1000)

Performances of Twin fans are not AMCA licensed.

這一系列可適用在type G<sub>2</sub> L ( 355-400 ) , G<sub>2</sub> M ( 355-500 ) , G<sub>2</sub> H ( 355-1000 )

該雙組風機的性能不屬於AMCA的認證範圍。

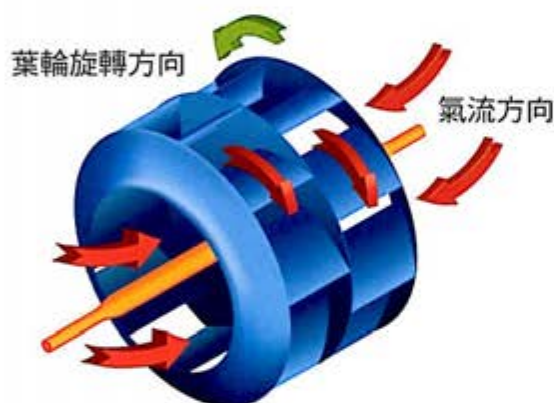
## TECHNICAL SPECIFICATION

### 技術要點

#### Wheel 葉輪

The Wheel of BAZ series is made of cold rolled sheet steel airfoil profile blades with spray paint or polyester powder coating finish and fully welded. The material of wheel also made of stainless steel or aluminum. All wheels are statically and dynamically balanced to ISO1940 or AMCA 204-G2.5 standards.

BAZ系列的葉輪是將冷軋鋼板製成機翼型截面葉片之後，並在表層噴漆或烤漆及焊接成形。另外該葉輪也可使用不銹鋼、鋁...等其他材料製成。所有葉輪的靜平衡與動平衡將符合ISO1940或AMCA 204-G2.5的標準規範。



Air flow will be inhaled into intake and thrown to outtake by fan operation, becoming a flow field. Red arrow indicate flow path. Green arrow indicate rotation direction.

氣流於風機運轉時由入口側吸入，藉由葉輪轉動而將氣流甩出，形成一道氣體流場。紅色箭頭表示氣流路徑，綠色箭頭為葉輪旋轉方向。

Due to specific blade designation of Airfoil section, it makes flow field more smooth and boost fan's performance. Red arrow indicate flow path.

翼型葉片的特殊外型設計，可使氣體流動更為順暢，並大幅提昇風機性能。紅色箭頭表示氣流路徑。

#### Shaped Inlets ( Inletcone) 導風圈



The aerodynamically shaped inlets are bolted in and guarantee a perfect inlet stream onto the impeller. The inletcone is made of steel or stainless steel or aluminum alloy.

透過流體力學的計算與設計，能將氣流發揮完美的導引效果至葉輪上。導風圈將利用鋼板、不銹鋼或鋁合金所製作而成。



## Housing 機殼

For all sizes the housing is manufactured in steel or galvanized sheet steel another also made of stainless steel with the housing fixed to the side plates in "Pittsburg lock"、"Welding"、"Combine in succession" form system. When the housings finished with spray paint or polyester powder coating.

所有各種型號的機殼，均採用一般鋼材或鍍鋅鋼板製作，另外也可使用不銹鋼等其他材料製成。且機殼的腹板與側板可採用"匹茲堡咬合"、"焊接"、"連續結合"的方式結合成型。並於完成後在表層噴漆或烤漆。

## Frame 框架

The frame is manufactured with galvanized angular bars for type "M". For type "H" and "V", They are manufactured with sections of steel and finished with spray paint or polyester powder coating. 對於結構M的框架將利用角鐵及扁鐵製作成型，而對於結構H和結構V將利用型鋼製作成型，並在表層噴漆或烤漆。

## Shaft 軸心

Shafts are manufactured from ISO C45 (JIS S45C; AISI C1045) carbon steel、stainless steel or other using an automatic process for positioning and cutting of the keyways. All dimensional tolerances of the shaft are fully checked to ensure a precision fit and then coated with an anti-corrosion varnish after assembly. Both shaft ends have as a standard feature diameters complying with ISO286. Shafts are sized to operate 20% or more below the first critical speed for each class of duty.

主要採用ISO C45 (JIS S45C; AISI C1045) 的碳鋼、不銹鋼或其他材質製作，軸心上的定位及鍵槽採用自動加工成型，軸心的所有公差都經過周詳的檢測及計算，以保證其符合精度的要求，並於裝配後在表層防銹塗裝。所有軸心皆參照ISO286的規範進行設計，軸徑的大小取決於臨界轉速或是高於操作轉速的20%而設計。

## Bearings 軸承

Bearings used are either deep groove ball bearing type with an eccentric locking collar or an adapter sleeve, or spherical roller bearings type sealed at both sides for different duty application. Bearing are selected for continuous operation and ample size for best possible operating results. They are selected for a basic rating fatigue life (L-10) and (L-50) per AFBMA Standards in excess of 45,000 hours and 225000 hours at maximum operating speed for each pressure class. According to the L-10, can guarantee 90% of the bearings up to operating the demand for 45000 hours; In the L-50, can guarantee 50% of the bearings up to operating the demand for 225000 hours.

所有的軸承均為兩側密封的深槽滾珠軸承或是球面滾珠軸承。軸承根據不同的設計需求，可分別採用錐套固定的深槽滾珠軸承或兩側密封的球面滾珠軸承。軸承疲勞壽命的選用皆根據AFBMA(L-10)和(L-50)的設計標準，可在最高轉速運行下皆可達到45000和225000小時的運轉，依據L-10的設計標準中，可保證90%的軸承皆能達到運轉45000小時的需求；L-50的設計標準中，可保證50%的軸承皆能達到運轉225000小時的需求。

## Fan Type L , M



For fan type "L" and "M" are use single row, deep groove, self-aligning ball bearings with an eccentric locking collar. They are mounted in a rubber housing and sealed at both sides for light duty application.

(light Duty)

對於BAZ類型"L"和"M"都是使用單列的滾珠軸承並鎖上偏心環的套筒加以固定，而軸承與培林架之間會有一層橡膠墊圈，能增加固定並有吸震功能。此一結構適用於輕負載的狀態下。

## Fan Type H



For fan type "H" use single row sealed ball bearings, locked on the shaft with conical sleeve and mounted inside cast-iron blocks ,with grease points, bolted to the side-frames.(Medium Duty)

對於BAZ類型"H"是使用單排密封的滾珠軸承，且鎖上一圓錐形套筒加以固定，並同時注入潤滑油以防止生鏽老化，安裝時會將其架設於框架上以增加穩定。此一結構適用於中負載的狀態下。

## Fan Type V



For type "V", Bearings are mounted on cast iron supports with grease points. According to the fan duty and size, bearings use double-row ball type with conical sleeve inside split block housings.

(Heavy Duty)

對於BAZ類型"V"的軸承，將根據風機運轉時的負載和大小而選用雙排滾珠軸承，同時在上面加裝圓錐形套筒加以固定，安裝時會將其裝在框架上，並須保持潤滑。

The bearings are lubricated for life and maintenance-free. If re-lubrication is necessary, it is recommended to use a lithium base grease suitable for all temperatures within the operational limits. Other maintenance explanation please reference the "Check list for fan maintenance"

在正常運轉下，軸承能保持潤滑與免維修。如果有必要再增加潤滑的話，建議在適當的溫度下添加適量的潤滑油。其餘保養說明請參照"風機維修保養應注意事項"。

## Balancing Quality 平衡校正

All wheels are statically and dynamically balanced to ISO1940 and AMCA 204-G2.5 standards.

All fans after assembly are trim-balanced to ISO1940 and AMCA 204-G2.5 standard.

Clean room application fans with balancing grade of G1.0 are available upon request.

所有葉輪都按照ISO1940及AMCA 204-G2.5的標準進行靜平衡和動平衡測試。

所有風機在裝配後都按照ISO1940及AMCA 204-G2.5進行整體細部平衡測試。

可根據無塵室的要求提供平衡等級為G1.0的風機。

Special paint & corrosion resistant coatings : Consult Flowtech office.

如需表面塗層特殊的烤漆或抗腐蝕的處理：歡迎與陽鼎實業股份有限公司接洽聯繫。



**BAZ Series**

## OPTIONAL ACCESSORIES ( Please contact Flowtech for expense )

配件選購（費用部份請另洽陽鼎實業股份有限公司）

### Casing Drain 機殼排水孔

This option is available when using fans exposed to the atmosphere or operating in high humidity conditions.

當風機在露天或高溫環境中進行運轉時，可以採用這種排水孔。

### Outlet Flanges 出口法蘭

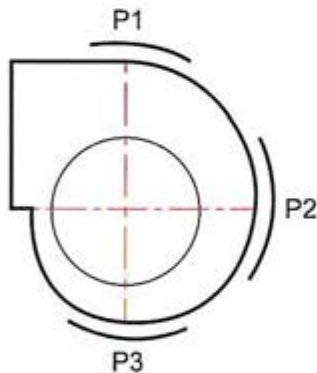
Outlet flanges are in accordance with DIN 24193 sheet 2 and available upon request.

根據需要可以提供參照DIN24193表格2設計的出口法蘭。

### Guards 防護網

Inlet guards, discharge guards and non-drive end shaft guards are available on request.

根據需要可以提供入口防護網、出口防護網和軸端防護網。



### Inspection Doors 檢修孔

The inspection door can be supplied upon request. It can be supplied in one of the three positions (P1, P2, & P3).

根據需要可以提供檢修孔，檢修孔可安裝在如左圖所示的三個位置上（P1, P2, & P3）。

### Stainless steel fan shafts 不銹鋼的軸心

Are available on fan sizes for applications where standard stainless steel shafts may exhibit excessive corrosion or heat stress.

可依照風機大小而選購標準的不銹鋼軸心，其軸心具有抗腐蝕與熱應力的特性。

### Split housings 組合式機殼

Type H, V fan can be furnished with horizontal split housings to facilitate wheel removal at additional cost. Housing splits are caulked and bolted when fan is shipped assembled.

為了船運時的方便，類型H、V的風機可以配合貨櫃大小將機殼做水平切割。

## Vibration Isolation System

### 避震系統

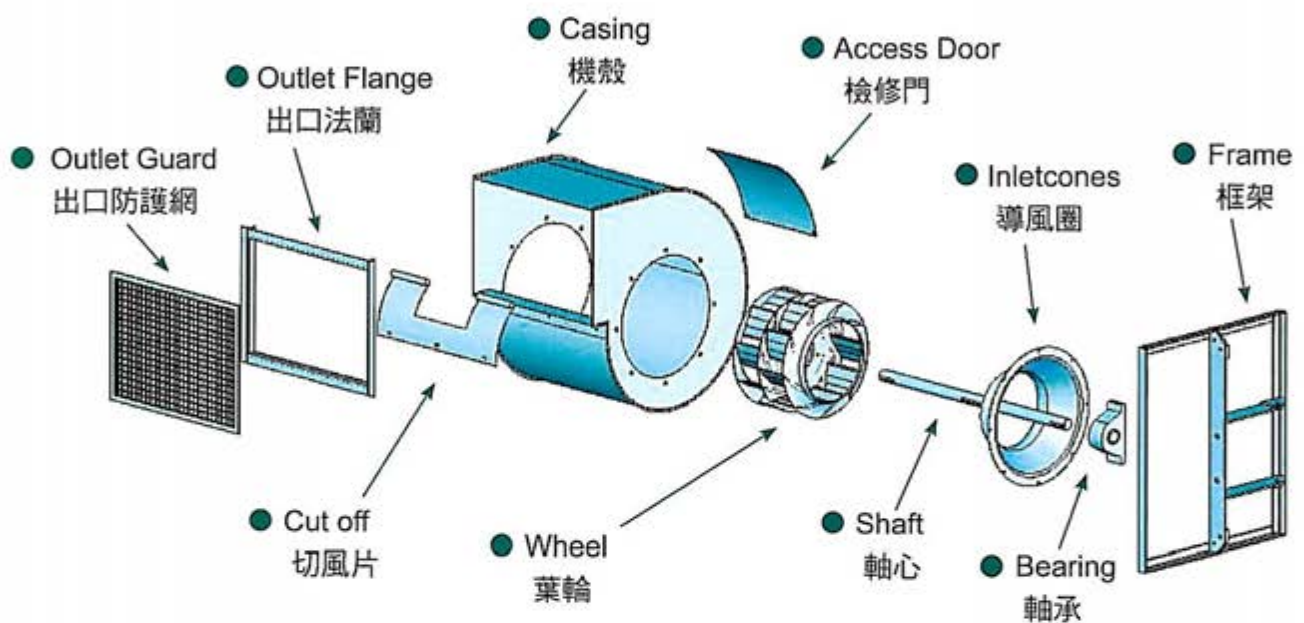
Flowtech offers a complete line of spring isolation bases with free standing or housed spring isolators. Base are available with height saving brackets for minimal fan and base height. Inertia bases built to accept poured concrete are also available.

陽鼎實業股份有限公司可另報價隨產品提供一組避震基座，或提供一組獨立可安放產品的避震器，該風機的高度則須包含底座的有效高度在內，同時避震器底座也可埋入混凝土中使用。

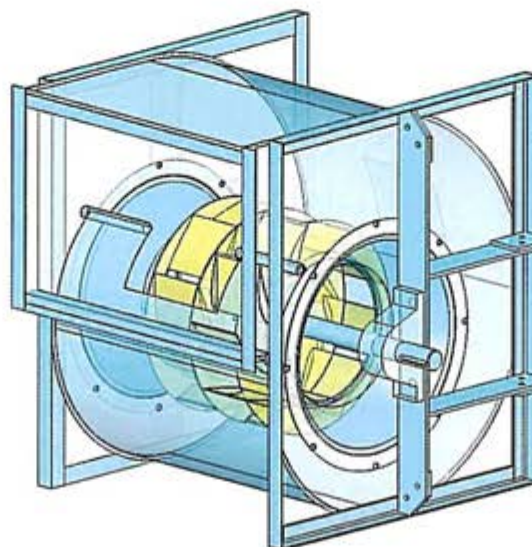
## Ignition protected versions 防爆型風機

Ignition protected versions can be built on request, with inletcones made of stainless steel or with steel rubbing stripes on the edge of the inletcones. Please contact Flowtech for selection and detail.

根據客戶需求陽鼎實業股份有限公司可以提供鋼製、不銹鋼的導風圈，或在導風圈邊緣鑲嵌鋼圈或 epoxy 防護的防爆型風機。相關的類型或詳情請與陽鼎實業股份有限公司聯繫。



Fan layout drawing 風機設計爆炸圖

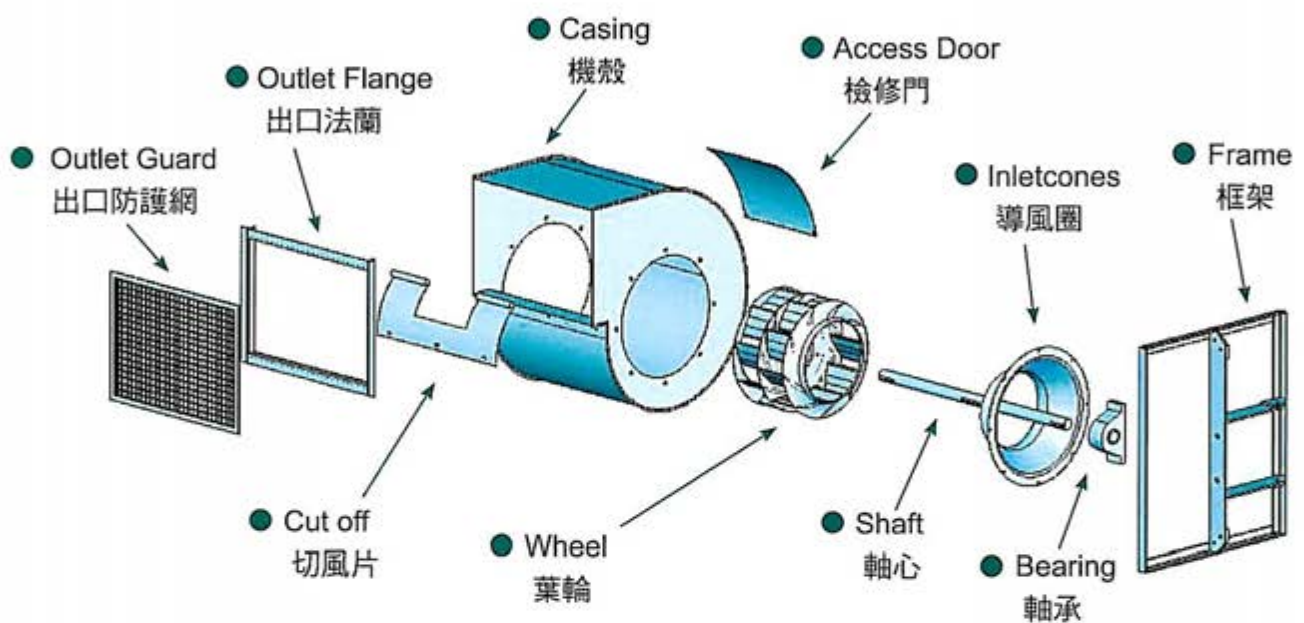


Fan layout perspective drawing 風機設計透視圖

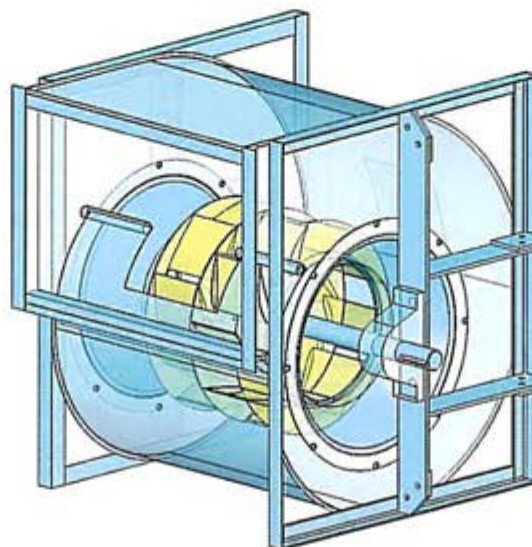
## Ignition protected versions 防爆型風機

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Fan layout drawing 風機設計爆炸圖



Fan layout perspective drawing 風機設計透視圖



## Fan Rotation and Discharge

### 風機的氣流與出口方向

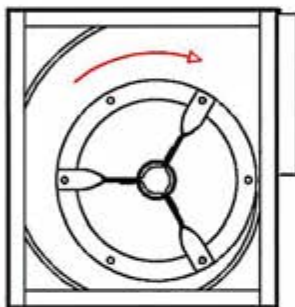
The rotation and discharge of the fan is in accordance with AMCA standard 99-2406-03.

The direction of rotation is determined from the drive side of fan [refer Fig.2] :

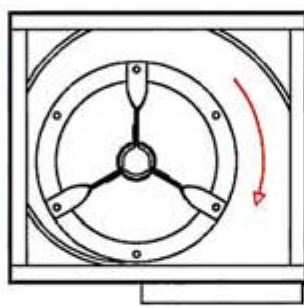
風機的氣流和出口方向是根據AMCA99-2406-03的標準規範而制定。

風機的氣流方向是由風機的傳動側視圖方向而制定的[請參照圖表.2]：

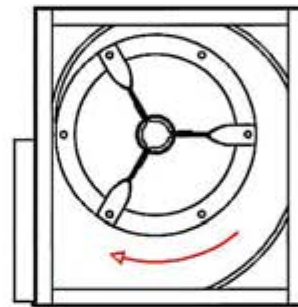
#### CW -clockwise rotation 順時針方向：



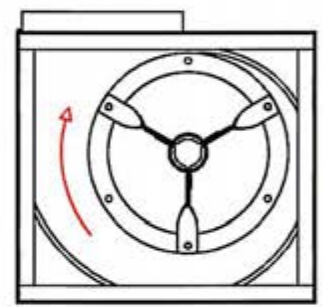
CW90



CW180

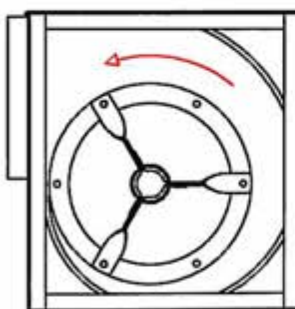


CW270

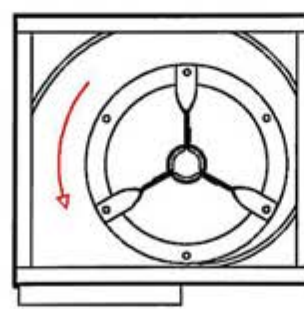


CW360

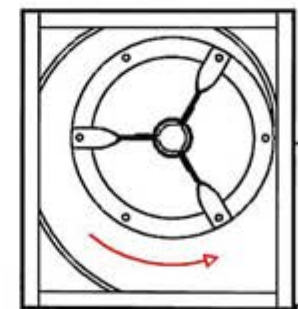
#### CCW -counter-clockwise rotation 逆時針方向：



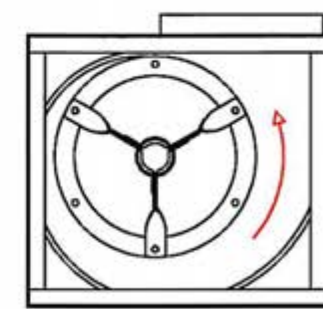
CCW90



CCW180



CCW270



CCW360

Fig.2 – Fan rotation and discharge / 圖表.2 – 風機的氣流與出口方向

## Motor Position

### 馬達位置

The position of the motor for belt drive centrifugal fan is in accordance with AMCA standard 99-2407-66.

Location of motor is determined by Facing the drive side of fan and Designating the positions by letters W, X, Y or Z [ refer Fig. 3 ]

由皮帶輪所傳動的離心風機，其馬達的擺放位置是根據AMCA 99-2407-66的標準規範制訂。

馬達的擺放位置是根據面對風機時的側面傳動制訂，並分別以W、X、Y或Z表示。

[ 請參照圖表.3 ]

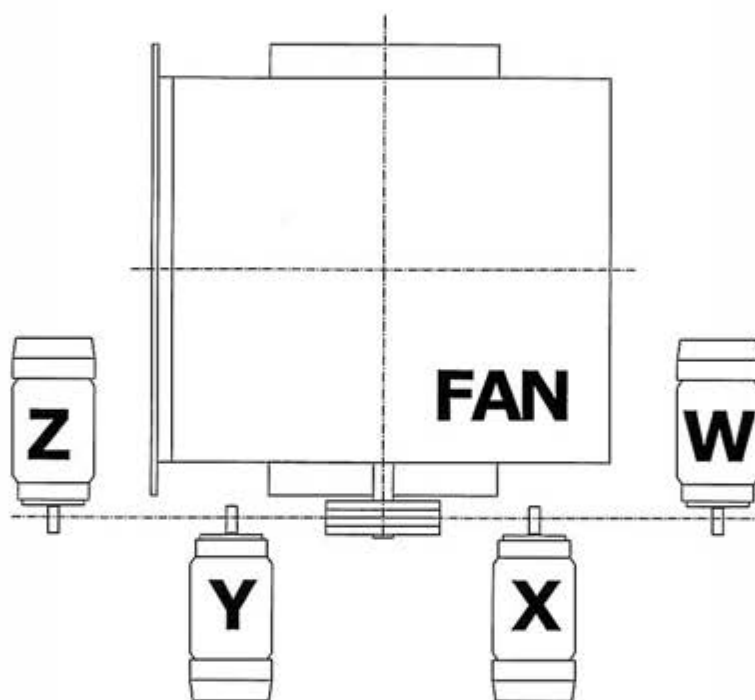


Fig.3 – Motor Position / 圖表.3 – 馬達位置

## Motor Selection

### 馬達選用

The power curve shown on each Performance curve represents the Absorbed power at the shaft of the fan measured in kW.

To determine the power of the motor to be installed, a correction Factors as shown in fig. 4 should be applied to compensate for transmission losses.

For conversion to horsepower (HP), use multiplying factor 1.34.

在每一個性能曲線上所表示的功率曲線均表示風機軸上的吸收功率，且單位以kw表示。

確認所配置的馬達功率時，應參照使用圖表4的修正係數，以彌補因皮帶輪傳動而造成的傳動損失。

若欲將單位千瓦 (kw) 換算為馬力 (HP)，需乘上換算係數1.34。

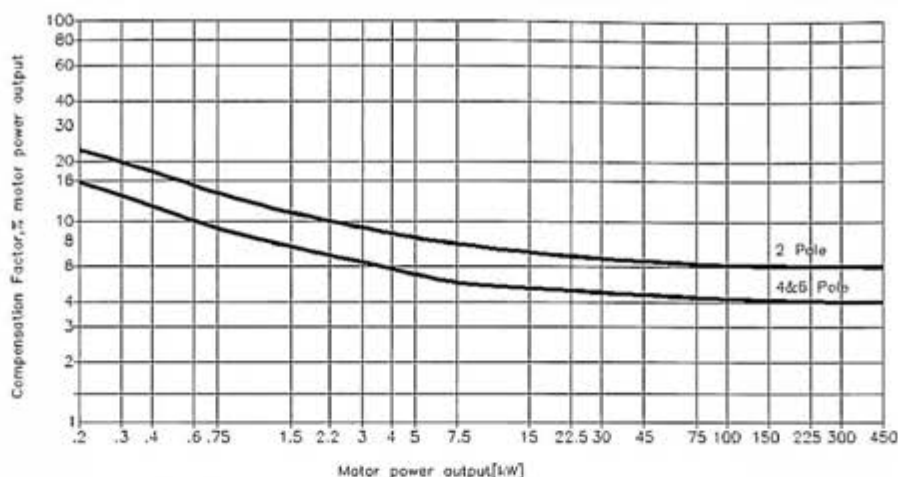


Fig.4-Recommended for motor compensation

圖表.4 - 馬達傳動損失修正系數表

## Dynamic Pressure

### 動 壓

The dynamic pressure and outlet air velocity shown on each curve are both calculated on the full air discharge area i.e. ducted outlet conditions.

With free outlet conditions the velocity pressure is higher. To determine this value multiply the velocity

Pressure of the ducted outlet obtained from the fan curve by the following correction factor "K"

Fan performances calculated with this correction factors are not licensed by AMCA.

動壓及出口風速兩者均根據出口面積計算的，主要使用於外接風管的系統中。

若當氣流排入大氣壓力時，動壓將會增加，應將這些動壓乘上下列的修正係數K。

計算風機性能所乘上的此修正係數，並不屬於AMCA的認證範圍。

$$[ K = 1.65 ]$$

## Performance

### 性 能

The performance data show on each diagram has been tested and measured in accordance to AMCA Standard 210 – Fig 12 – installation type B (free inlet and ducted outlet condition).

Ratings are referred to the standard air density with the total pressure as function of the air volume, using logarithmic scales.

It is essential that, the same installation type and test standards are used at all times, when comparing fan performances.

在每一張性能圖表中的性能參數都是按照AMCA 210 – Fig 12 – type B標準規範的安裝方式（意指由入風口吸入大氣壓力與外接出口風管的測試條件）進行測試而取得的。

性能參數是在標準空氣密度取得下，以全壓為風量的函數，並使用對數比例表示。

此舉的主要目的是，當在進行風機性能的比較時，能有相同的安裝類型與測試標準。

## Noise

### 噪音

The noise level shown on each diagram refer to the sound power "A-weighted" and the data on the inlet side has been measured in accordance with AMCA Standard 300 figure 2 – installation Type "B". The noise level of the fan determined as follows :

各性能曲線上所表示的噪音級別均是指"A加權"的聲功率級，其數據是根據AMCA 300 – Fig 2 – type B標準規範的安裝方式在入口側進行測試。風機的噪音級別計算如下：

- Inlet Sound power level ("A" scale) :  $L_{wiA}$  as catalogue

入口聲功率級別 ("A"加權) :  $L_{wiA}$  如性能曲線所示

- Inlet Octave band spectrum :  $L_{wiA}$  as catalogue

入口倍頻頻譜 :  $L_{wiA}$  如性能曲線所示

- Sound pressure level聲壓級別 :

Free field自由環境 :  $L_p(A) = L_{wiA} - (20\log_{10}d) - 11$

Room conditions室內環境 :  $L_p(A) = L_{wiA} - (20\log_{10}d) - 7$

Where d : distance between the fan and the microphone in m .

上式中d = 量測點與風機的距離。(單位 : m)



**Minimum diameter recommended for the smallest transmission pulley.**

建議最小應選用的傳動皮帶輪尺寸

|                               | Size<br>型號 | 355 |     |     | 400 |     |     | 450 |     |     |
|-------------------------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                               |            | L/M | H   | V   | L/M | H   | V   | L/M | H   | V   |
| Rating power<br>馬達<br>等級 (kw) | 4          | 85  |     |     |     |     |     |     |     |     |
|                               | 5.5        | 100 | 90  |     | 112 |     |     | 112 |     |     |
|                               | 7.5        | 112 | 112 | 100 | 140 | 100 |     | 125 | 112 |     |
|                               | 11         |     | 125 | 112 |     | 132 |     | 180 | 140 |     |
|                               | 15         |     |     | 118 |     | 180 | 118 |     | 180 | 125 |
|                               | 18.5       |     |     |     |     |     | 140 |     |     | 140 |
|                               | 22         |     |     |     |     |     | 150 |     |     | 160 |
|                               | 30         |     |     |     |     |     |     |     |     | 212 |

|                               | Size<br>型號 | 500 |     |     | 560 |     |     | 630 |     |     |
|-------------------------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                               |            | M   | H   | V   | M   | H   | V   | M   | H   | V   |
| Rating power<br>馬達<br>等級 (kw) | 5.5        | 125 |     |     |     |     |     |     |     |     |
|                               | 7.5        | 132 | 132 |     | 140 |     |     | 140 |     |     |
|                               | 11         | 160 | 150 |     | 180 | 150 |     | 180 | 150 |     |
|                               | 15         |     | 200 | 140 | 224 | 200 |     | 250 | 200 |     |
|                               | 18.5       |     |     | 140 |     | 224 | 150 |     | 250 | 180 |
|                               | 22         |     |     | 150 |     |     | 160 |     |     | 180 |
|                               | 30         |     |     | 200 |     |     | 212 |     |     | 236 |
|                               | 37         |     |     |     |     |     |     |     |     | 280 |

|                               | Size<br>型號 | 710 |     | 800 |     | 900 |     | 1000 |     |
|-------------------------------|------------|-----|-----|-----|-----|-----|-----|------|-----|
|                               |            | H   | V   | H   | V   | H   | V   | H    | V   |
| Rating power<br>馬達<br>等級 (kw) | 11         |     |     |     |     |     |     |      |     |
|                               | 15         | 224 |     | 200 |     |     |     |      |     |
|                               | 18.5       | 250 |     | 250 |     | 160 |     |      |     |
|                               | 22         | 315 | 180 | 280 | 180 | 180 |     | 180  |     |
|                               | 30         |     | 224 |     | 212 | 250 | 212 | 236  | 212 |
|                               | 37         |     | 250 |     | 250 |     | 224 | 315  | 224 |
|                               | 45         |     |     |     |     |     | 224 |      | 224 |
|                               | 55         |     |     |     |     |     | 250 |      | 250 |
|                               | 75         |     |     |     |     |     | 280 |      | 280 |

## Operational Limits - "BAZ"

BAZ系列風機運轉極限

|                                        |     | 355     | 400   | 450   | 500   | 560   | 630   | 710   | 800    | 900   | 1000  | 1120   | 1250  | 1400  | 1600  | 1800  | 2000  |
|----------------------------------------|-----|---------|-------|-------|-------|-------|-------|-------|--------|-------|-------|--------|-------|-------|-------|-------|-------|
|                                        | L-M | kW      | 3.75  | 5.63  | 7.5   | 11.25 | 15    | 15    |        |       |       |        |       |       |       |       |       |
|                                        | H   | kW      | 11.25 | 18.75 | 18.75 | 25    | 30    | 37.5  | 30     | 30    | 45    | 56.25  | 75    | 93.75 | 112.5 | 187.5 | 187.5 |
|                                        | V   | kW      | 22.5  | 30    | 37.5  | 45    | 75    | 93.75 | 56.25  | 75    | 93.75 | 131.25 | 187.5 | 187.5 | 225   | 300   | 375   |
|                                        | X   | kW      |       |       |       |       |       | 93.75 | 131.25 | 150   | 187.5 | 262.5  | 337.5 | 412.5 | 525   | 675   | 825   |
| Maximum Fan Speed<br>最高風機轉速            | L-M | rpm     | 3000  | 2700  | 2400  | 2150  | 2000  | 1600  |        |       |       |        |       |       |       |       |       |
|                                        | H   | rpm     | 4000  | 3800  | 3300  | 3000  | 2500  | 1600  | 1350   | 1200  | 1100  | 1000   | 900   | 800   | 700   | 650   | 550   |
|                                        | V   | rpm     | 5300  | 4700  | 4200  | 3700  | 3400  | 2000  | 1800   | 1550  | 1400  | 1300   | 1200  | 1000  | 900   | 800   | 700   |
|                                        | X   | rpm     |       |       |       |       |       | 2600  | 2300   | 2050  | 1850  | 1700   | 1500  | 1350  | 1150  | 1050  | 950   |
| Air Temperature 大氣溫度<br>Min 最低: -20° C | L-M | Max. °C | 85    | 85    | 85    | 85    | 85    |       |        |       |       |        |       |       |       |       |       |
|                                        | H-V | Max. °C | 100   | 100   | 100   | 100   | 100   | 100   | 100    | 100   | 100   | 100    | 100   | 100   | 100   | 100   | 100   |
| Wheel<br>葉輪                            |     | mm      | 355   | 400   | 450   | 500   | 560   | 630   | 710    | 800   | 900   | 1000   | 1250  | 1400  | 1600  | 1800  | 2000  |
|                                        |     | Kg      | 10.18 | 14.22 | 17.84 | 25.19 | 41.34 | 49.01 | 65.34  | 80.15 | 106.2 | 133.7  | 228.1 | 355.1 | 445.6 | 600.8 | 714.2 |
|                                        |     | Kgm2    | 0.063 | 0.093 | 0.130 | 0.321 | 0.569 | 0.903 | 1.574  | 3.241 | 4.863 | 8.234  | 21.51 | 33.43 | 59.51 | 89.14 | 174.0 |
| Fan weight<br>風機重量                     | L   | kg      | 39    | 45    | 62    |       |       |       |        |       |       |        |       |       |       |       |       |
|                                        | M   | kg      | 43    | 52    | 69    | 88    | 110   | 127   |        |       |       |        |       |       |       |       |       |
|                                        | H   | kg      | 56    | 71    | 81    | 102   | 132   | 162   | 226    | 291   | 371   | 449    | 1057  | 1430  | 1936  | 2620  | 3545  |
|                                        | V   | kg      | 72    | 97    | 96    | 120   | 152   | 188   | 264    | 334   | 404   | 486    | 1086  | 1463  | 1970  | 2653  | 3573  |

## Examples of selection

### 選擇範例

BAZ355

WHEEL : 355 mm  
葉輪尺寸  
空氣密度 :  $\rho = 1.2 \text{ kg/m}^3$

OUTLET : 500 x 355 mm (WxH, inside 寬x高)  
風機出口尺寸  
OUTLET AREA : 0.3500 m<sup>2</sup> (inside area)  
風機出口面積

| Op. Limit | CL.I | CL.II | CL.III |
|-----------|------|-------|--------|
| Type      | L-M  | H     | V      |
| M. kw     | 3.75 | 11.25 | 22.5   |
| M. RPM    | 3000 | 4000  | 5000   |

| RPM  | Ps   | 15     | 25     | 35     | 45     | 55     | 65     | 75     | 85     | 95     | 105    |
|------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1400 | Q    | 86.97  | 70.16  | 31.40  |        |        |        |        |        |        |        |
|      | Pw   | 0.42   | 0.42   | 0.31   |        |        |        |        |        |        |        |
|      | Pt   | 19.51  | 28.12  | 36.06  |        |        |        |        |        |        |        |
|      | V    | 8.17   | 6.59   | 2.95   |        |        |        |        |        |        |        |
|      | LwiA | 74     | 71     | 71     |        |        |        |        |        |        |        |
| 1600 | Q    | 105.99 | 90.64  | 76.67  | 42.50  |        |        |        |        |        |        |
|      | Pw   | 0.62   | 0.62   | 0.62   | 0.49   |        |        |        |        |        |        |
|      | Pt   | 21.64  | 30.49  | 38.90  | 46.60  |        |        |        |        |        |        |
|      | V    | 9.95   | 8.51   | 7.20   | 3.99   |        |        |        |        |        |        |
|      | LwiA | 79     | 76     | 75     | 75     |        |        |        |        |        |        |
| 1800 | Q    | 123.78 | 111.41 | 97.66  | 85.37  | 58.55  |        |        |        |        |        |
|      | Pw   | 0.88   | 0.89   | 0.88   | 0.88   | 0.77   |        |        |        |        |        |
|      | Pt   | 24.41  | 32.52  | 41.35  | 49.84  | 57.72  |        |        |        |        |        |
|      | V    | 11.62  | 10.46  | 9.17   | 8.02   | 5.50   |        |        |        |        |        |
|      | LwiA | 82     | 81     | 79     | 78     | 78     |        |        |        |        |        |
| 2000 | Q    | 140.89 | 130.20 | 119.04 | 106.58 | 95.84  | 76.07  |        |        |        |        |
|      | Pw   | 1.18   | 1.22   | 1.21   | 1.21   | 1.21   | 1.12   |        |        |        |        |
|      | Pt   | 26.44  | 35.48  | 43.55  | 52.49  | 60.77  | 68.97  |        |        |        |        |
|      | V    | 13.23  | 12.23  | 11.18  | 10.01  | 9.00   | 7.14   |        |        |        |        |
|      | LwiA | 85     | 84     | 83     | 82     | 81     | 80     |        |        |        |        |
| 2200 | Q    | 157.09 | 149.27 | 138.18 | 127.79 | 117.24 | 106.50 | 91.79  | 58.44  |        |        |
|      | Pw   | 1.55   | 1.61   | 1.62   | 1.61   | 1.61   | 1.60   | 1.55   | 1.28   |        |        |
|      | Pt   | 29.43  | 38.09  | 46.97  | 55.17  | 63.51  | 72.63  | 80.53  | 88.10  |        |        |
|      | V    | 14.75  | 14.02  | 12.98  | 12.00  | 11.01  | 10.00  | 8.62   | 5.49   |        |        |
|      | LwiA | 88     | 87     | 87     | 85     | 84     | 84     | 82     | 85     |        |        |
| 2400 | Q    | 173.10 | 166.76 | 157.89 | 148.27 | 138.26 | 128.48 | 119.04 | 107.94 | 87.43  | 32.61  |
|      | Pw   | 2.00   | 2.06   | 2.10   | 2.10   | 2.09   | 2.09   | 2.08   | 2.06   | 2.00   | 1.25   |
|      | Pt   | 32.74  | 41.12  | 49.65  | 58.06  | 66.64  | 75.04  | 83.78  | 92.79  | 100.28 | 106.93 |
|      | V    | 16.25  | 15.66  | 14.83  | 13.92  | 12.98  | 12.06  | 11.18  | 10.13  | 8.21   | 3.06   |
|      | LwiA | 90     | 90     | 89     | 89     | 88     | 87     | 86     | 85     | 86     | 86     |

Air Volume (Q) : cmm  
風量

Outlet Velocity (V) : m/s  
出口風速

Total Pressure Efficiency ( $\eta$ ) : %  
全壓效率

Static Pressure (Ps) : mmAq  
靜壓

Fan Speed (N) : rpm  
風機轉數

Sound Power (LwiA) : dB  
聲功率

Total Pressure (Pt) : mmAq  
全壓

Absorbed Power (Pw) : kw  
吸收功率

### Examples NO. 1 : (範例1)

For the above chart is part of BAZ355, when Ps is 25 (mmAq), Q is 130 (cmm), we can find the R.P.M is 2000 (rpm), and 1.22 (kw). For other data, please see step1~step4.

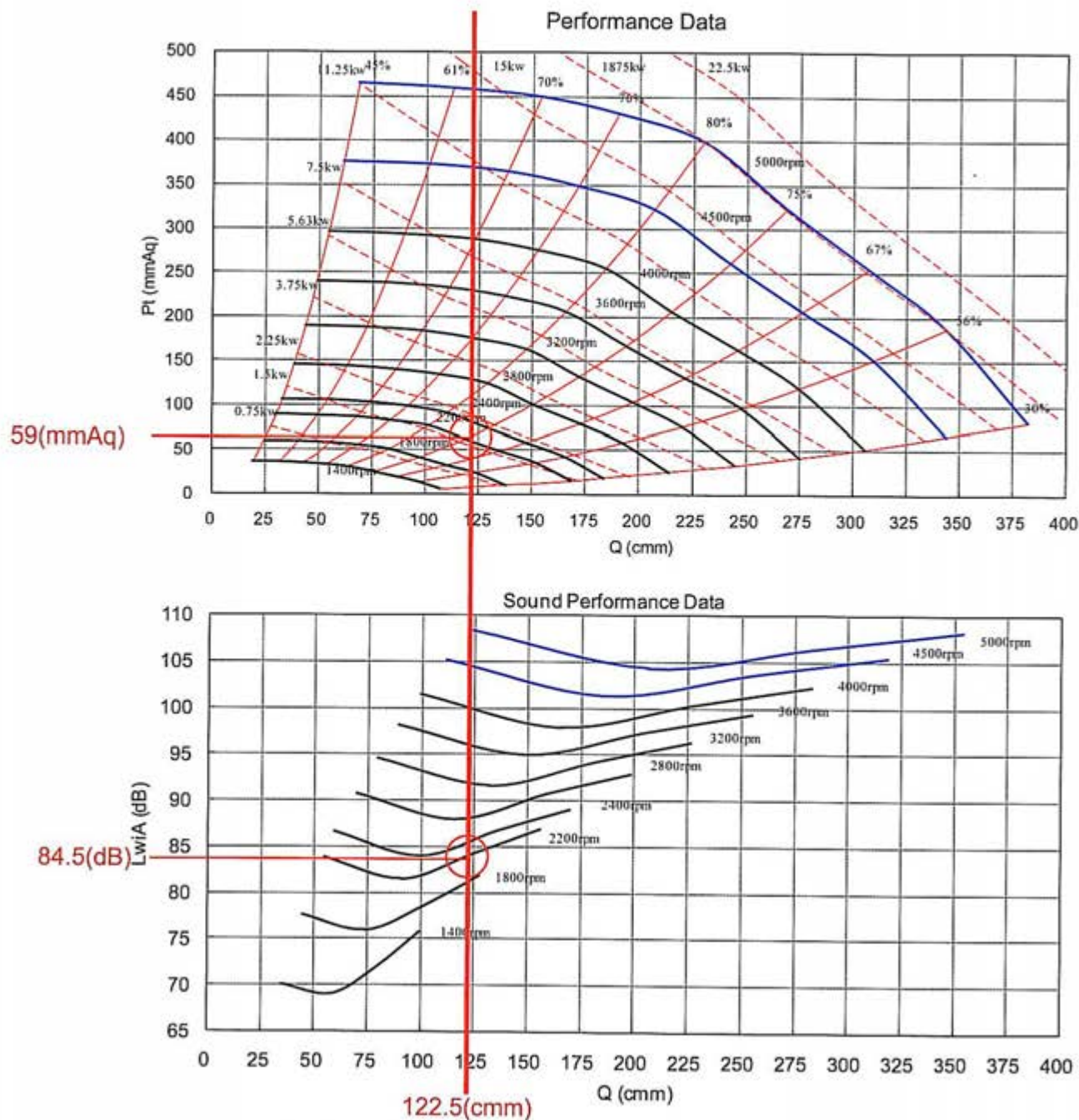
上圖表是BAZ355的一部份，當靜壓在25 (mmAq)，風量在130 (cmm)時，可查到轉數約2000 (rpm)，所需的軸功率約1.22 (kw)，以及其他資料數據。請看步驟1~步驟4。



## Examples NO. 2 : (範例2)

When the data fall between two parameter on the performance, we can use interpolate to calculate the information we need, ex: when  $P_s$  is 50 (mmAq),  $Q$  is 122.5 (cmm), because  $P_s$  between the 45~55 (mmAq), we can find R.P.M is 2200 (rpm), then use interpolate to calculate horsepower is about 1.61 (kw), total Pressure is about 59 (mmAq). please see step 5~ step7 for above.

當數據介於性能表上兩個參數值之間時，可利用該表使用插入法算出所需資訊，或可藉由曲線圖的讀取判斷得知。例如當靜壓在50 (mmAq)，風量在122.5 (cmm)時，因介於靜壓45~55 (mmAq)中，可查到轉數約2200 (rpm)，並用插入法算出所需的軸功率約1.61 (kw)，全壓約為59 (mmAq)。請看步驟5~步驟7 和下圖。



註1：全壓 (Total Pressure,  $P_t$ ) = 靜壓 (Static Pressure,  $P_s$ ) + 動壓 (Dynamic Pressure,  $P_d$ )

註2：動壓  $P_d$  (mmAq) =  $\left[ \frac{\text{風量 } Q \text{ (cmm)}}{4.03 \times \text{出口面積平方 } \text{Outlet Area}^2 \text{ (m}^2\text{)} \times 60} \right]^2$



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